QUALITY CONTROL DUPLICATE

ENVIRONMENTAL
Analytical Service, Inc.

Duplicate of QC Sample

EPA Method TO-15 SIM GC/MS **SDG: LABQC**
Analytical Method: **TO-15 SIM**

Dup File: QC05196B.D
Description: ST-071105-2
Can/Tube#:
QC_Batch: 051906-MS3

CAS#	Compound	LCD ppbv	LCS ppbv	RPD %D	Limit %	Flag * = Out
75-01-4	Vinyl chloride	0.110	0.108	2	30	
75-35-4	1,1-Dichloroethene	0.082	0.075	7	30	
156-59-2	cis-1,2-Dichloroethene	0.114	0.122	8	30	
79-01-6	Trichloroethene	0.107	0.115	8	30	
127-18-4	Tetrachloroethene	0.116	0.119	3	30	

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL SPIKE

EPA Method TO-15 SIM GC/MS **SDG: LABQC**
Analytical Method: TO-15 SIM

File: QC05196A.D
Description: ST-071105-2
Can/Tube#:
Sam_Type: LCS
QC_Batch: 051906-MS3
Air Volume: 1000 ml

Date Sampled: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 05/19/06 **Time:** 9:35
Can Dilution Factor: 1.00 3
QC Duplicate: No

CAS#	Compound	MDL ppbv	Spike Conc ppbv	Amount ppbv	Matrix Amt ppbv	Spk Amt ppbv	Percent Recovery	LCL %	UCL %	Flag
75-01-4	Vinyl chloride	0.004	0.103	0.108	0.000	0.108	105	70	130	
75-35-4	1,1-Dichloroethene	0.005	0.103	0.075	0.000	0.075	73	70	130	
156-59-2	cis-1,2-Dichloroethene	0.005	0.103	0.122	0.000	0.122	118	70	130	
79-01-6	Trichloroethene	0.013	0.103	0.115	0.000	0.115	112	70	130	
127-18-4	Tetrachloroethene	0.013	0.103	0.119	0.000	0.119	116	70	130	

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.197	98	70-130	

Notes: Reported results are to be interpreted to two significant figures.
*ug/m3 calculated assuming conditions at 60 F and 1 atm.

QUALITY CONTROL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

LABORATORY CONTROL DUPLICATE

EPA Method TO-15 SIM GC/MS **SDG: LABQC**
Analytical Method: **TO-15 SIM**

File: QC05196B.D
Description: ST-071105-2
Can/Tube#:
Sam_Type: LCD
QC_Batch: 051906-MS3
Air Volume: 1000 ml

Date Sampled: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 05/19/06 **Time:** 10:19
Can Dilution Factor: 1.00 3
QC Duplicate: Yes

CAS#	Compound	MDL ppbv	Spike Conc ppbv	Amount ppbv	Matrix Amt ppbv	Spk Amt ppbv	Percent Recovery	LCL %	UCL %	Flag
75-01-4	Vinyl chloride	0.004	0.103	0.110	0.000	0.110	107	70	130	
75-35-4	1,1-Dichloroethene	0.005	0.103	0.082	0.000	0.082	80	70	130	
156-59-2	cis-1,2-Dichloroethene	0.005	0.103	0.114	0.000	0.114	111	70	130	
79-01-6	Trichloroethene	0.013	0.103	0.107	0.000	0.107	104	70	130	
127-18-4	Tetrachloroethene	0.013	0.103	0.116	0.000	0.116	113	70	130	

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.197	99	70-130	

Notes: Reported results are to be interpreted to two significant figures.
*ug/m3 calculated assuming conditions at 60 F and 1 atm.

V. ANALYTICAL RESULTS

SDG Numbers: 206227
Client: Environ Corporation

The following pages contain the certified reports for the analytical methods and the compounds requested. The reports are in order of analytical method then EAS ID number. A brief description of the units that appear on the reports is given below:

ppbV, ppmV, Percent

Parts per billion by volume (also known as mole ratio) and other related units. This is the primary reporting unit for all volatile organic compound analysis except the hydrocarbon speciation and total hydrocarbons. This unit is independent of temperature and pressure.

$$\text{ppbV} = \frac{\text{nanomoles of compound}}{\text{moles of air}}$$

ug/m3, mg/m3

Micrograms of compound per cubic meter of air and other related units. This is the primary reporting unit for semi volatile organic compounds. It is not a primary reporting unit for volatile organic compounds because it is temperature and pressure dependent, so the result will vary depending on the conditions when the sample was collected. EAS provides the units on its analytical reports as a convenience to the client, but they should be used with caution. The following equation can be used to convert from ppbV to ug/m3.

$$\text{ug/m3} = \frac{\text{ppbV x MW compound}}{23.68}$$

23.68 is the molar volume of a gas at 60 F and 1 atm pressure

ppbC, ppmC

Parts per billion by volume as carbon (methane) and other related units. This unit is the primary reporting unit for hydrocarbon analysis, even if it does not appear on the report. This unit is used because the flame ionization detector response is proportional to the number of carbons in the compound, so an accurate concentration can be reported even if the identification of the compound is not known.

$$\text{ppbC} = \text{ppbV x number of carbons in compound}$$

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 01**

File: 0622701A.D
Description: IAQ-HS-OUT3-51206
Can/Tube#: 648
Sam_Type: SA
QC_Batch: 051806-MS1
Air Volume: 630 ml

Date Sampled: 05/12/06 **Time:**
Date Received: 05/16/06
Date Extracted:
Date Analyzed: 05/18/06 **Time:** 12:58
Can Dilution Factor: 1.66 3
Not Detected Flag: U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.011	0.134	0.023	0.028	0.355	0.061	J
75-35-4	1,1-Dichloroethene	0.013	0.137	0.020	0.054	0.561	0.084	J
156-60-5	trans-1,2-Dichloroethene	0.053	1.159	0.053	0.216	4.746	0.216	U
156-59-2	cis-1,2-Dichloroethene	0.013	0.137	0.013	0.054	0.561	0.054	U
79-01-6	Trichloroethene	0.034	0.137	0.102	0.189	0.758	0.562	J
127-18-4	Tetrachloroethene	0.034	0.137	0.066	0.240	0.960	0.465	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
	Toluene-d8	0.200	0.232	116	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 02**

File: 0622702A.D **Date Sampled:** 05/12/06 **Time:**
Description: IAQ-HS-OUT4-51206 **Date Received:** 05/16/06
Can/Tube#: 417 **Date Extracted:**
Sam_Type: SA **Date Analyzed:** 05/18/06 **Time:** 13:44
QC_Batch: 051806-MS1 **Can Dilution Factor:** 1.29 3
Air Volume: 816 ml **Not Detected Flag:** U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.006	0.081	0.008	0.017	0.213	0.021	J
75-35-4	1,1-Dichloroethene	0.008	0.082	0.013	0.032	0.336	0.054	J
156-60-5	trans-1,2-Dichloroethene	0.032	0.696	0.032	0.129	2.848	0.129	U
156-59-2	cis-1,2-Dichloroethene	0.008	0.082	0.008	0.032	0.336	0.032	U
79-01-6	Trichloroethene	0.021	0.082	0.021	0.114	0.455	0.114	U
127-18-4	Tetrachloroethene	0.021	0.082	0.046	0.144	0.576	0.323	J

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.225	113	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 03**

File:	0622703A.D	**Date Sampled:**	05/12/06	**Time:**	
Description:	IAQ-HS-22-51206	**Date Received:**	05/16/06		
Can/Tube#:	754	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/18/06	**Time:**	14:29
QC_Batch:	051806-MS1	**Can Dilution Factor:**	1.53		3
Air Volume:	655 ml	**Not Detected Flag:**	U		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.009	0.119	0.009	0.025	0.314	0.025	U
75-35-4	1,1-Dichloroethene	0.012	0.121	0.015	0.048	0.497	0.060	J
156-60-5	trans-1,2-Dichloroethene	0.047	1.028	0.047	0.191	4.208	0.191	U
156-59-2	cis-1,2-Dichloroethene	0.012	0.121	0.012	0.048	0.497	0.048	U
79-01-6	Trichloroethene	0.030	0.121	0.038	0.168	0.672	0.210	J
127-18-4	Tetrachloroethene	0.030	0.121	0.030	0.213	0.851	0.213	U

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
	Toluene-d8	0.200	0.207	103	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG:** 206227
Analytical Method: TO-15 SIM **Laboratory Number:** 04

File: 0622704A.D **Date Sampled:** 05/12/06 **Time:**
Description: IAQ-HS-23-51206 **Date Received:** 05/16/06
Can/Tube#: 56 **Date Extracted:**
Sam_Type: SA **Date Analyzed:** 05/18/06 **Time:** 15:16
QC_Batch: 051806-MS1 **Can Dilution Factor:** 1.36 3
Air Volume: 675 ml **Not Detected Flag:** U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.008	0.103	0.013	0.021	0.271	0.034	J
75-35-4	1,1-Dichloroethene	0.010	0.105	0.012	0.041	0.429	0.047	J
156-60-5	trans-1,2-Dichloroethene	0.040	0.887	0.040	0.165	3.629	0.165	U
156-59-2	cis-1,2-Dichloroethene	0.010	0.105	0.010	0.041	0.429	0.041	U
79-01-6	Trichloroethene	0.026	0.105	0.026	0.145	0.580	0.145	U
127-18-4	Tetrachloroethene	0.026	0.105	0.051	0.184	0.734	0.361	J

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.206	103	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 05**

File: 0622705A.D **Date Sampled:** 05/12/06 **Time:**
Description: IAQ-HS-24-51206 **Date Received:** 05/16/06
Can/Tube#: 186 **Date Extracted:**
Sam_Type: SA **Date Analyzed:** 05/18/06 **Time:** 16:04
QC_Batch: 051806-MS1 **Can Dilution Factor:** 1.28 3
Air Volume: 675 ml **Not Detected Flag:** U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.008	0.097	0.009	0.020	0.255	0.025	J
75-35-4	1,1-Dichloroethene	0.009	0.099	0.009	0.039	0.404	0.039	U
156-60-5	trans-1,2-Dichloroethene	0.038	0.834	0.038	0.155	3.416	0.155	U
156-59-2	cis-1,2-Dichloroethene	0.009	0.099	0.009	0.039	0.404	0.039	U
79-01-6	Trichloroethene	0.025	0.099	0.025	0.136	0.546	0.140	J
127-18-4	Tetrachloroethene	0.025	0.099	0.036	0.173	0.691	0.250	J

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.195	97	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 06**

File: 0622706A.D **Date Sampled:** 05/12/06 **Time:**
Description: IAQ-HS-25-51206 **Date Received:** 05/16/06
Can/Tube#: 65 **Date Extracted:**
Sam_Type: SA **Date Analyzed:** 05/18/06 **Time:** 16:49
QC_Batch: 051806-MS1 **Can Dilution Factor:** 1.86 3
Air Volume: 685 ml **Not Detected Flag:** U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.011	0.138	0.011	0.029	0.366	0.029	U
75-35-4	1,1-Dichloroethene	0.014	0.141	0.015	0.056	0.578	0.059	J
156-60-5	trans-1,2-Dichloroethene	0.054	1.195	0.054	0.222	4.891	0.222	U
156-59-2	cis-1,2-Dichloroethene	0.014	0.141	0.014	0.056	0.578	0.056	U
79-01-6	Trichloroethene	0.035	0.141	0.035	0.195	0.781	0.196	J
127-18-4	Tetrachloroethene	0.035	0.141	0.064	0.247	0.990	0.450	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
	Toluene-d8	0.200	0.215	108	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 07**

File:	0622707A.D	**Date Sampled:**	05/12/06	**Time:**	
Description:	IAQ-HS-26-51206	**Date Received:**	05/16/06		
Can/Tube#:	179	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/18/06	**Time:**	17:40
QC_Batch:	051806-MS1	**Can Dilution Factor:**	1.97		3
Air Volume:	668 ml	**Not Detected Flag:**	U		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.012	0.150	0.012	0.031	0.397	0.031	U
75-35-4	1,1-Dichloroethene	0.015	0.153	0.015	0.060	0.628	0.060	U
156-60-5	trans-1,2-Dichloroethene	0.059	1.298	0.059	0.241	5.312	0.241	U
156-59-2	cis-1,2-Dichloroethene	0.015	0.153	0.015	0.060	0.628	0.060	U
79-01-6	Trichloroethene	0.038	0.153	0.089	0.212	0.848	0.495	J
127-18-4	Tetrachloroethene	0.038	0.153	0.067	0.269	1.075	0.470	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
	Toluene-d8	0.200	0.202	101	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 08**

File: 0622708A.D **Date Sampled:** 05/12/06 **Time:**
Description: IAQ-HS-27-51206 **Date Received:** 05/16/06
Can/Tube#: 728 **Date Extracted:**
Sam_Type: SA **Date Analyzed:** 05/18/06 **Time:** 18:31
QC_Batch: 051806-MS1 **Can Dilution Factor:** 1.73 3
Air Volume: 651 ml **Not Detected Flag:** U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.011	0.136	0.011	0.028	0.358	0.028	U
75-35-4	1,1-Dichloroethene	0.013	0.138	0.019	0.054	0.565	0.079	J
156-60-5	trans-1,2-Dichloroethene	0.053	1.169	0.053	0.218	4.787	0.218	U
156-59-2	cis-1,2-Dichloroethene	0.013	0.138	0.013	0.054	0.565	0.054	U
79-01-6	Trichloroethene	0.035	0.138	0.249	0.191	0.764	1.377	
127-18-4	Tetrachloroethene	0.035	0.138	0.092	0.242	0.969	0.642	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
	Toluene-d8	0.200	0.206	103	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 09**

File: 0622709A.D
Description: IAQ-HS-28-51206
Can/Tube#: 790
Sam_Type: SA
QC_Batch: 051806-MS1
Air Volume: 653 ml

Date Sampled: 05/12/06 **Time:**
Date Received: 05/16/06
Date Extracted:
Date Analyzed: 05/18/06 **Time:** 19:38
Can Dilution Factor: 1.66 3
Not Detected Flag: U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.010	0.130	0.010	0.027	0.342	0.027	U
75-35-4	1,1-Dichloroethene	0.013	0.132	0.017	0.052	0.541	0.069	J
156-60-5	trans-1,2-Dichloroethene	0.051	1.119	0.051	0.208	4.579	0.208	U
156-59-2	cis-1,2-Dichloroethene	0.013	0.132	0.013	0.052	0.541	0.052	U
79-01-6	Trichloroethene	0.033	0.132	0.050	0.183	0.731	0.276	J
127-18-4	Tetrachloroethene	0.033	0.132	0.242	0.232	0.927	1.695	

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.194	97	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 10**

File: 0622710A.D **Date Sampled:** 05/12/06 **Time:**
Description: IAQ-HS-28-51206D **Date Received:** 05/16/06
Can/Tube#: 756 **Date Extracted:**
Sam_Type: SA **Date Analyzed:** 05/18/06 **Time:** 20:29
QC_Batch: 051806-MS1 **Can Dilution Factor:** 1.96 3
Air Volume: 679 ml **Not Detected Flag:** U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.012	0.147	0.012	0.030	0.389	0.030	U
75-35-4	1,1-Dichloroethene	0.014	0.150	0.014	0.059	0.614	0.059	J
156-60-5	trans-1,2-Dichloroethene	0.058	1.270	0.058	0.236	5.199	0.236	U
156-59-2	cis-1,2-Dichloroethene	0.014	0.150	0.014	0.059	0.614	0.059	U
79-01-6	Trichloroethene	0.038	0.150	0.054	0.208	0.830	0.298	J
127-18-4	Tetrachloroethene	0.038	0.150	0.269	0.263	1.052	1.886	

Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
Toluene-d8	0.200	0.195	98	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG:** 206227
Analytical Method: TO-15 SIM **Laboratory Number:** 11

File: 0622711A.D
Description: IAQ-HS-29-51206
Can/Tube#: 612
Sam_Type: SA
QC_Batch: 051806-MS1
Air Volume: 676 ml

Date Sampled: 05/12/06 **Time:**
Date Received: 05/16/06
Date Extracted:
Date Analyzed: 05/18/06 **Time:** 21:20
Can Dilution Factor: 1.85 3
Not Detected Flag: U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.011	0.140	0.011	0.029	0.368	0.029	U
75-35-4	1,1-Dichloroethene	0.014	0.142	0.024	0.056	0.582	0.097	J
156-60-5	trans-1,2-Dichloroethene	0.055	1.204	0.055	0.224	4.929	0.224	U
156-59-2	cis-1,2-Dichloroethene	0.014	0.142	0.014	0.056	0.582	0.056	U
79-01-6	Trichloroethene	0.036	0.142	0.036	0.197	0.787	0.197	U
127-18-4	Tetrachloroethene	0.036	0.142	0.059	0.249	0.998	0.410	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
	Toluene-d8	0.200	0.186	93	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG:** 206227
Analytical Method: TO-15 SIM **Laboratory Number:** 12

File: 0622712A.D
Description: IAQ-HS-30-51206
Can/Tube#: 630
Sam_Type: SA
QC_Batch: 051806-MS1
Air Volume: 674 ml

Date Sampled: 05/12/06 **Time:**
Date Received: 05/16/06
Date Extracted:
Date Analyzed: 05/18/06 **Time:** 22:09
Can Dilution Factor: 1.65 3
Not Detected Flag: U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.010	0.125	0.010	0.026	0.330	0.026	U
75-35-4	1,1-Dichloroethene	0.012	0.127	0.017	0.050	0.521	0.070	J
156-60-5	trans-1,2-Dichloroethene	0.049	1.077	0.049	0.200	4.410	0.200	U
156-59-2	cis-1,2-Dichloroethene	0.012	0.127	0.012	0.050	0.521	0.050	U
79-01-6	Trichloroethene	0.032	0.127	0.032	0.176	0.704	0.176	U
127-18-4	Tetrachloroethene	0.032	0.127	0.070	0.223	0.892	0.489	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
	Toluene-d8	0.200	0.198	99	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 13**

File: 0622713A.D
Description: IAQ-HS-31-51206
Can/Tube#: 619
Sam_Type: SA
QC_Batch: 051806-MS1
Air Volume: 696 ml

Date Sampled: 05/12/06 **Time:**
Date Received: 05/16/06
Date Extracted:
Date Analyzed: 05/18/06 **Time:** 22:54
Can Dilution Factor: 1.75 3
Not Detected Flag: U

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.010	0.128	0.010	0.027	0.338	0.027	U
75-35-4	1,1-Dichloroethene	0.013	0.131	0.013	0.051	0.535	0.051	U
156-60-5	trans-1,2-Dichloroethene	0.050	1.106	0.050	0.206	4.529	0.206	U
156-59-2	cis-1,2-Dichloroethene	0.013	0.131	0.013	0.051	0.535	0.051	U
79-01-6	Trichloroethene	0.033	0.131	0.061	0.181	0.723	0.337	J
127-18-4	Tetrachloroethene	0.033	0.131	0.089	0.229	0.917	0.623	J

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
	Toluene-d8	0.200	0.212	106	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

ANALYTICAL REPORT

ENVIRONMENTAL
Analytical Service, Inc.

EPA Method TO-15 SIM GC/MS **SDG: 206227**
Analytical Method: TO-15 SIM **Laboratory Number: 14**

File:	0622714A.D	**Date Sampled:**	05/12/06	**Time:**	
Description:	IAQ-TB-51206	**Date Received:**	05/16/06		
Can/Tube#:	704	**Date Extracted:**			
Sam_Type:	SA	**Date Analyzed:**	05/19/06	**Time:**	16:14
QC_Batch:	051906-MS3	**Can Dilution Factor:**	1.00		3
Air Volume:	600 ml	**Not Detected Flag:**	U		

CAS#	Compound	MDL ppbv	RL ppbv	Amount ppbv	MDL ug/m3	RL ug/m3	Amount ug/m3	Flag
75-01-4	Vinyl chloride	0.007	0.017	0.007	0.018	0.044	0.018	U
75-35-4	1,1-Dichloroethene	0.008	0.017	0.008	0.034	0.068	0.034	U
156-60-5	trans-1,2-Dichloroethene	0.033	0.147	0.033	0.136	0.600	0.136	U
156-59-2	cis-1,2-Dichloroethene	0.008	0.017	0.008	0.034	0.068	0.034	U
79-01-6	Trichloroethene	0.022	0.042	0.022	0.120	0.231	0.120	U
127-18-4	Tetrachloroethene	0.022	0.042	0.022	0.152	0.292	0.152	U

	Surrogate Recovery	Spike Amt. ppbV	Amount ppbV	% Rec.	QC Limits	Flag * = Out
	Toluene-d8	0.200	0.218	109	70-130	

Notes: 1) Reported results are to be interpreted to two significant figures.
2) ug/m3 = ppbV*FW/23.68 calculated assuming conditions at 60 F and 1 atm.
3) MDL and RL are adjusted for sample volume and can dilution.
4) U and ND are Flags used for Not Detected
5) J is a flag for a result between the MDL and the RL (or lower quantitation limit, LQL)

DATA QUALIFIERS *and* ABBREVIATIONS

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Qualifiers

*	See Case Narrative
B	This compound was detected in the blank above the Reporting Limit (RL)
D	This report was calculated from a secondary dilution factor
E	Compound exceeds the calibration range and is an estimated value
J	The amount reported is an estimated value because it is between the Reporting Limit (RL) and the Method Detection Limit (MDL)
F	Higher detection limit due to sample matrix
G	Higher detection limit due to limited sample size
Q	Compound secondary ion ratio qualifiers are outside the standard acceptance criteria
R	Compound secondary retention time (RT) is outside the acceptance criteria for the method
U	Compound is less than the Method Detection Limit (MDL)

Abbreviations

MDL Minimum Detection Limit– Instrument detection limit

The minimum detectable level (MDL) is the lowest concentration of a substance that can be measured with confidence. The MDL is calculated at the 99% confidence level from seven repetitive measurements on a sample whose concentration does not exceed 10 times the estimated MDL (Glasser et. al. 1981; Long and Winefordner, 1983). Generating an MDL study, a sample is prepared in the appropriate matrix with components near the estimated MDL, which is about 3 times the instrument noise level. This sample is run seven consecutive times and the standard deviation (S) is calculated. The MDL is determined using the following formula: MDL = 3.14*S

ND Not Detected – a reported limit

NA Not Applicable

RPD Relative Percent Difference

The relative percent difference for a pair of duplicate samples is calculated from repetitive runs on sample pairs representative of the types of samples that are analyzed. The RPD provides information on the precision or reproducibility of the actual measurement process. The RPD is calculated for a particular compound from the average using the following formula:

$$RPD(\%) = \frac{\text{Difference} * 100}{\text{Average}}$$

RSD Relative Standard Deviation

The relative standard deviation is reported as a percentage deviation at a particular concentration using the following equation:

$$RSD\ (\%) = \frac{S * 100}{\text{Average}}$$